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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,638	10/27/2001	Hermann Rappenecker	870-003-140	6796

4955 7590 12/18/2003

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EXAMINER

CABRERA, ZOILA E

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/031,638

Applicant(s)

RAPPENECKER ET AL.

Examiner

Zoila E. Cabrera

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 14-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Final Rejection

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The rejection under 102 with respect to claims 14-25 and 29-30 is maintained.

The rejection under 103 with respect to claims 26-28 is maintained.

Claim Rejections - 35 USC § 102

2. Claims 14-25, 29-30 are rejected under 35 U.S.C. 102(e) as being anticipated by **De Wille et al. (US 6,167,338)**.

With respect to claims 14, **De Wille** discloses a method of operating an electric motor having a microprocessor that controls commutation of the motor, said microprocessor having associated therewith a volatile memory and a nonvolatile memory, comprising the steps of:

- upon switch-on of the motor, loading an old operating data value from the nonvolatile memory into the volatile memory associated with the microprocessor (Col. 7, lines 43-47, i.e., at the start of the normal control system operation firstly production data are copied from the flash memory, *or nonvolatile memory*, into the RAM memory, *or volatile memory*; Col. 8, lines 4-5 and 14-25), and saving the operating data value there as a variable (Col. 6, lines 39-42, i.e., adaptive values for adaptively changing variables; Col. 8, lines 50-55); updating the value of the variable in the volatile memory at substantially predetermined points in

time (Fig. 3, elements 7, 8, 9, 6; Col. 7, lines 49-55, i.e., if an error occurs the system is reset and the relevant operational data contained in the flash memory, *or nonvolatile memory*, are copied into the RAM memory, *or volatile memory*. Please note that every time an error occurs a reset function takes place and the operational data is copied into the RAM, *or volatile memory*); and replacing, at substantially regular intervals, said operating data value stored in the nonvolatile memory by a current value of said variable from said volatile memory (Col. 7, lines 57-60, i.e., a predetermined interval corresponds to each time of switching off. If the control system is switched off, the operational data, adaptive data, status data etc. and possibly also the changed production data are stored in the flash memory, *or nonvolatile memory*; Col. 2, lines 32-41).

As for claims 15-24, **De Wille** further discloses,

- performing said step of updating the value of the variable in the volatile memory during time intervals between commutation operations (Fig. 3, elements 7, 8, 9, 6; Col. 7, lines 49-55 and lines 57-60. When switching on and reset, the operational data is copied into RAM, see Col. 7, lines 53-55 and Col. 8, lines 4-5 and lines 19-25);
- performing said loading of said operating data value from said nonvolatile memory into said volatile memory each time a reset of said microprocessor is performed (Col. 7, lines 53-55);

Art Unit: 2125

- as part of a reset operation, transferring the present value of the variable as the old operating data value into the nonvolatile memory (Col. 7, lines 67- Col. 8, lines 1-2; Fig. 3, element 7, Store status recording in flash for RESET);
- polling the operating data value saved in the nonvolatile memory via a data connection (Fig. 3);
- performing said polling of the operating data under control by said microprocessor (Fig. 3; Col. 3, lines 47-55; Col. 8, lines 15-19);
- a temperature sensor is associated with the motor; and further comprising the step of saving an extreme value (OD TM) of the temperature (T) sensed by said temperature sensor as an operating data value (FIG. 8: OD TMAX) in the nonvolatile memory (Col. 12, lines 5-10; Col. 4, lines 5-14; Col. 8, lines 39-43);
- an A/D converter which converts an analog voltage into a digital value (it is inherent that A/D converter is included in a control system, see Col. 7, lines 57-60, i.e., the ignition switch is switched off would require an A/D); and further comprising the step of saving, as an operating data value in the nonvolatile memory, an extreme value (OD UBM) of the voltage converted by said A/D converter (Col. 12, lines 5-10, i.e., the system voltage; Col. 4, lines 8-14, i.e., to determine a case in which the operating values have been exceeded);
- saving a value (OD COMM) corresponding to the number of commutations as an operating data value in the nonvolatile memory (Col. 6, lines 41-42, i.e., counter data; Col. 6, lines 47-50);

- saving in the nonvolatile memory, a duration of operation (OD OH) of the motor as an operating data value (Col. 6, lines 41-42, counter data indicating the overall length of operation until now);
- upon switch-on of the motor, loading a plurality of operating data values from the nonvolatile memory into respective variables in the volatile memory (Col. 1, lines 21-26), and subsequently updating values of said variables, under control by said microprocessor (Col. 6, lines 39-42, i.e., adaptive values for adaptively changing variable);

Regarding to claims 25 and 29-30, **De Wille** discloses,

- An electric motor comprising a microprocessor which controls commutation of the motor (Col. 3, lines 47-55), a nonvolatile memory adapted to store motor operating data while said motor is off (Col. 6, lines 28-30, i.e. flash memory *or nonvolatile memory* and lines 47-56, i.e., the counter data which indicate the overall length of the operation data are stored each time the control system or the motor vehicle is switched off, and this data is added to the end of the flash memory area *or nonvolatile memory*; Col. 1, lines 21-24), and a volatile memory adapted to store motor operating data during operation of said motor (Col. 1, lines 24-26; Col. 2, lines 34-36, i.e., checking if any of the operational data in the RAM memory *or volatile memory* has been changed subsequent to the step of switching on the control system. Please note that after switch on, any data

Art Unit: 2125

stored would correspond to data stored during operation), and means, responsive to switch-on of said motor, for transferring said motor operating data from said nonvolatile memory to said volatile memory (Col. 7, lines 43-46; Col. 8, lines 4-5 and lines 15-24); and means for replacing, at substantially regular intervals, motor operating data stored in the nonvolatile memory by current motor operating data stored in said volatile memory (Col. 7, lines 57-60, i.e., a predetermined interval corresponds to each time of switching off. If the control system is switched off, the operational data, adaptive data, status data etc. and possibly also the changed production data are stored in the flash memory, or *nonvolatile memory*; Col. 2, lines 32-41);

wherein the microprocessor, during operation of the motor, controls writing operations for periodically writing motor operating data from said volatile memory into said nonvolatile memory (Col. 2, lines 32-41; Fig. 3, element 12, please note that switch on and switch off and reset are processes that take place during operation of the motor).

- said nonvolatile memory is an electrically erasable programmable read only memory (EEPROM) and said volatile memory is a random access memory (RAM) (Col. 7, lines 39-40; Col. 1, lines 21-26).

Claim Rejections - 35 USC § 103

3. Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over **De Wille** in view of **Philips "About the I² C-Bus"**.

De Wille discloses the transmission of data between the flash memory and RAM or vice versa (Abstract, lines 3-13). However, **De Wille** fails to specifically disclose, with respect to claims 26-28, a I² C bi-directional data bus. But Philips discloses a bi-directional data bus such as I² C-Bus that has become a worldwide industry proprietary control bus (Page 1, paragraph 1). Therefore, it would have been obvious to a person of the ordinary skill in the art at the time the invention was made to combine the teachings of **De Wille** to include the I² C-Bus as taught by **Philips** because it would provide high speed serial transfer rates for applications such as EEPROM and Flash memory (**Philips**, Page 1, paragraph 4, lines 4-7).

Response to Arguments

4. Applicant's arguments filed September 30, 2003 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., storing a value only when it has changed in one direction, e. g. when the operating temperature has increased) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant further contends that **DeWILLE** teaches directly away from the concept of performing storing at regular intervals, into non-volatile memory, during operation so that, upon shutoff of an electric motor, one has available operating data which are not completely up-to-date but are sufficiently current to facilitate a re-start. Examiner disagrees because **DeWILLE** teaches such limitations (Col. 2, lines 20-26, i.e., the most recent operational data comprises storing the plurality of data types in the RAM memory or *volatile memory*; Col. 2, lines 32-41, i.e., subsequently storing in the flash memory or *nonvolatile memory*, the operational data in the RAM memory which has been changed subsequent to the step of switching on the control system. Please note that the most recent operational data, upon switching off the motor, would be available to facilitate a re-start, see Col. 1, lines 21-26).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

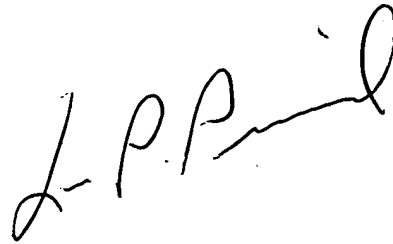
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2125

Any inquiry concerning communication or earlier communication from the examiner should be directed to Zoila Cabrera, whose telephone number is (703) 306-4768. The examiner can normally be reached on M-F from 8:00 a.m. to 5:30 p.m. EST (every other Friday).

If attempts to reach the examiner by phone fail, the examiner's supervisor, Leo Picard, can be reached on (703) 308-0538. Additionally, the fax phones for Art Unit 2125 are (703) 308-6306 or 308-6296. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist at (703) 305-9600.

Zoila Cabrera
Patent Examiner
12/16/03

A handwritten signature in black ink, appearing to read 'L. Picard', with a stylized flourish at the end.

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100